

How to Automate MongoDB Atlas to LookerStudio

Via BigQuery

To understand how to use MongoDB Atlas you could refer this document:

https://github.com/DataBytes-Organisation/DiscountMate_new/blob/main/Documentation%20discountmate/How%20to%20use%20MongoDb%20Atlas.docx

(This is after you are done logging in to MongoDB Atlas using the discountmate gmail account

Email: discountmate.databytes@gmail.com

Password: discountmatedatabytes1@

)

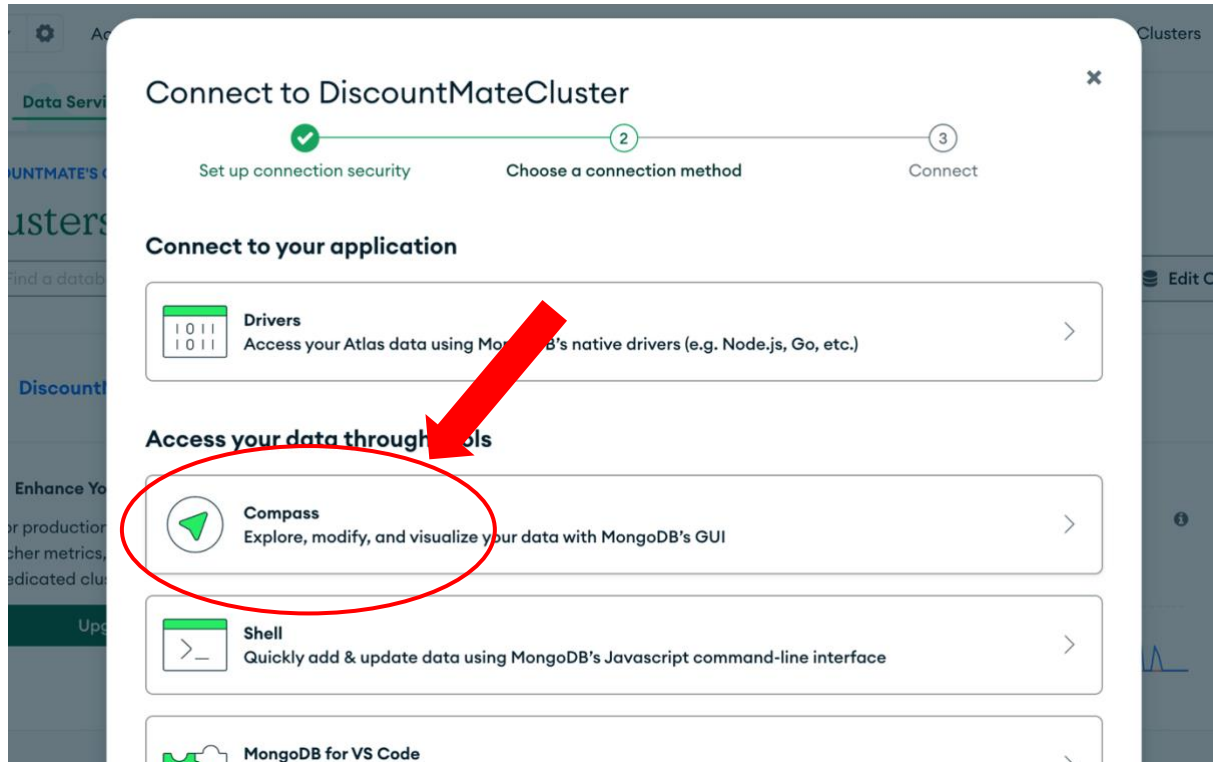
Instructions: Setting up MongoDB Atlas

1. Login to the DiscountMate Gmail account:
Click on "Connect"

The screenshot shows the MongoDB Atlas interface for a cluster named 'DiscountMateCluster'. The 'Connect' button is circled in red, and a red arrow points to it. The page displays various performance metrics and a table of cluster details.

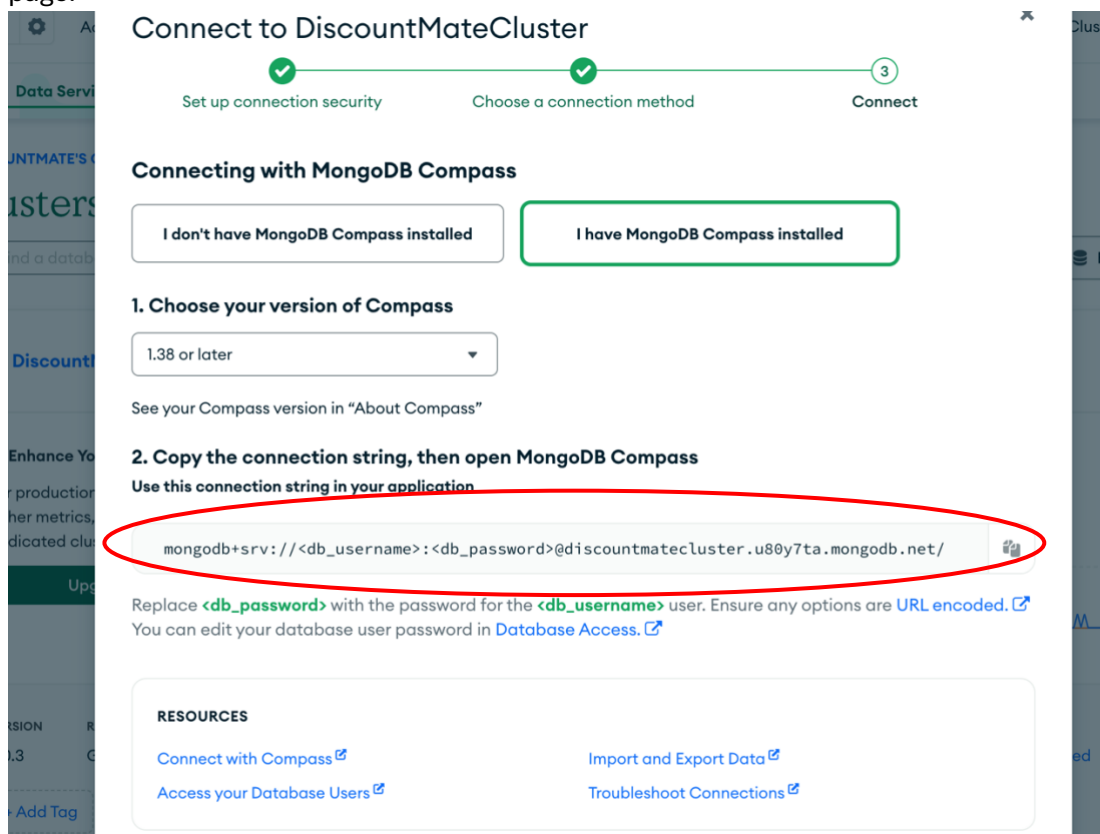
VERSION	REGION	CLUSTER TIER	TYPE	BACKUPS	LINKED APP SERVICES	ATLAS SQL
8.0.3	GCP / Jakarta (asia-southeast2)	M0 Sandbox (General)	Replica Set - 3 nodes	Inactive	Multiple applications linked	Connect

2. Click on "Compass"

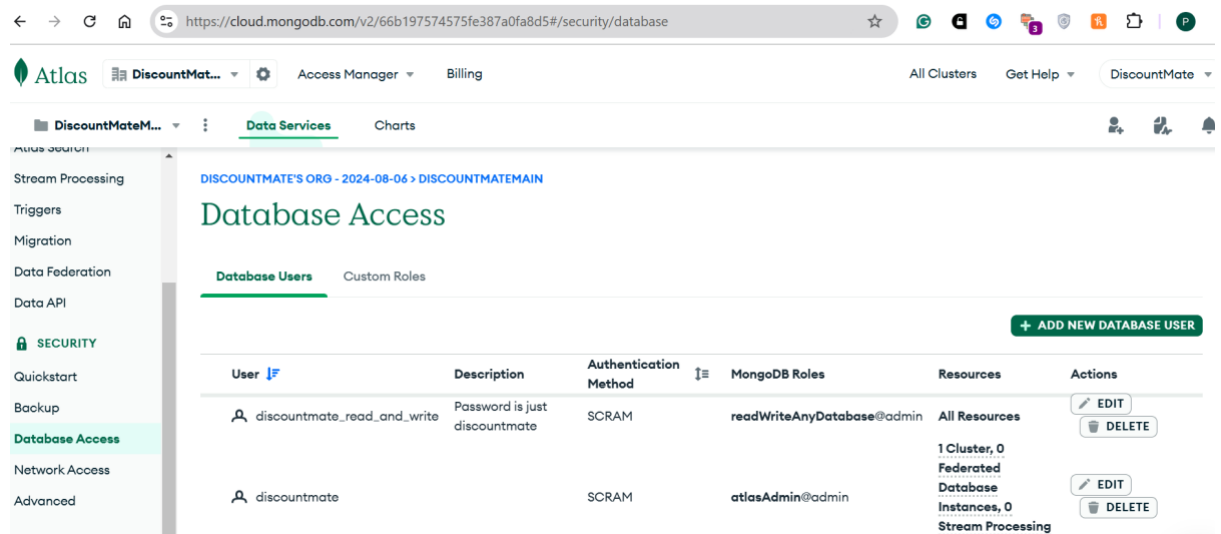


3. Copy the connection string

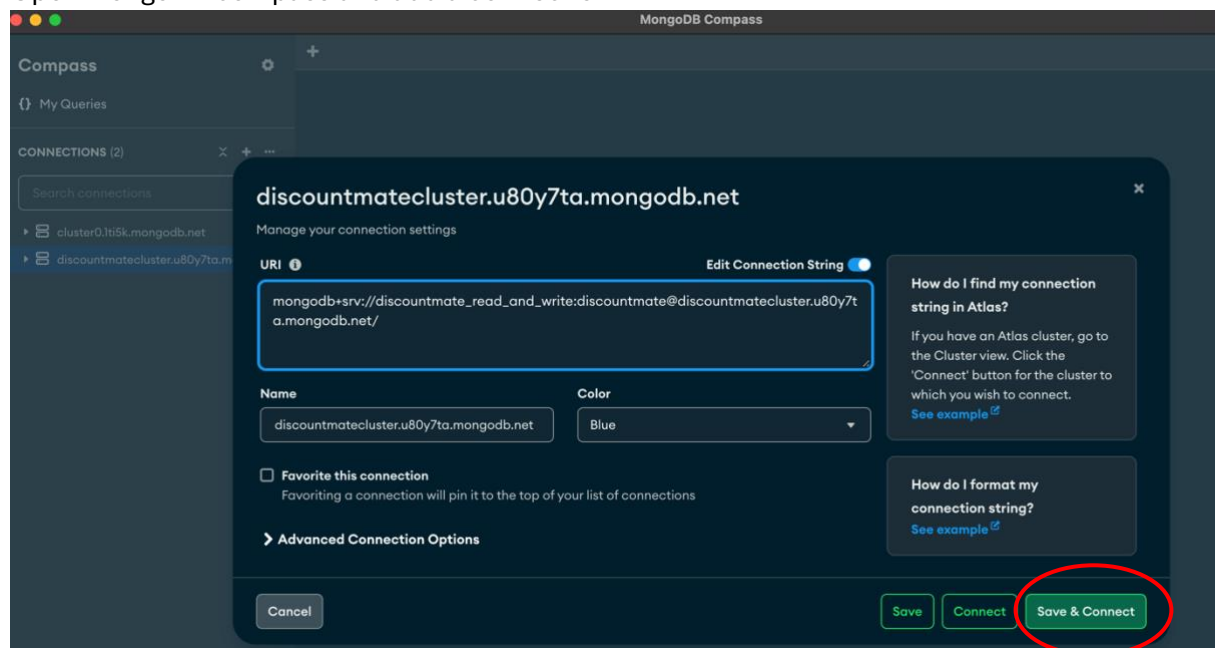
Note: for the values of db_username and db_password refer to the 'Database Access' page.



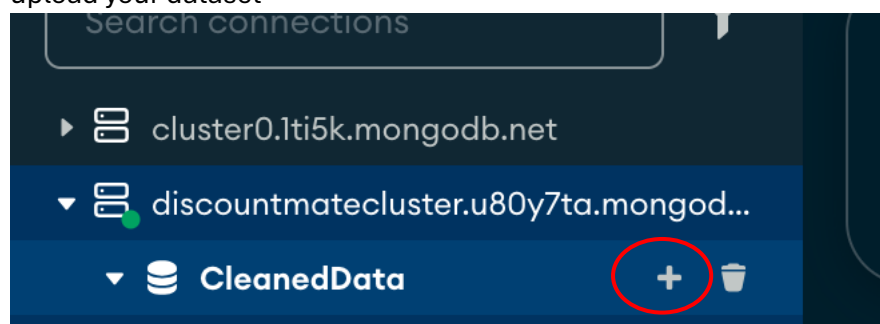
4. Identify the user account relevant to you (or create an account as needed). The users have different accessibility settings e.g. discountmate_read_and_write can read and write to any database (which is necessary to upload, edit or use data)



5. Open MongoDB compass and add a connection



Save and connect, this should connect to the MongoDB atlas clusters where you can upload your dataset



Add a collection under Cleaned Data

Create a new collection

Create Collection

Collection Name

☐ **Time-Series**
Time-series collections efficiently store sequences of measurements over a period of time. [Learn More](#)

➤ **Additional preferences** (e.g. Custom collation, Capped, Clustered collections)

Cancel Create Collection

Add the cleaned dataset in this collection

cluster0.1ti5k.mongodb.net

▼ discountmatecluster.u80y7ta.mongod...

▼ CleanedData

📁 **Coles** ...

▶ MasterCollections

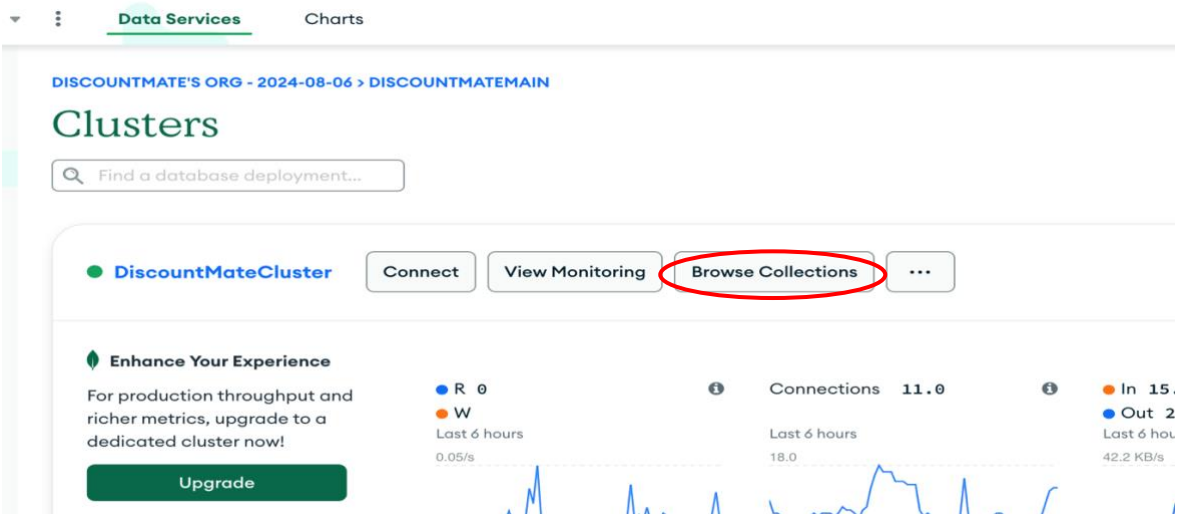
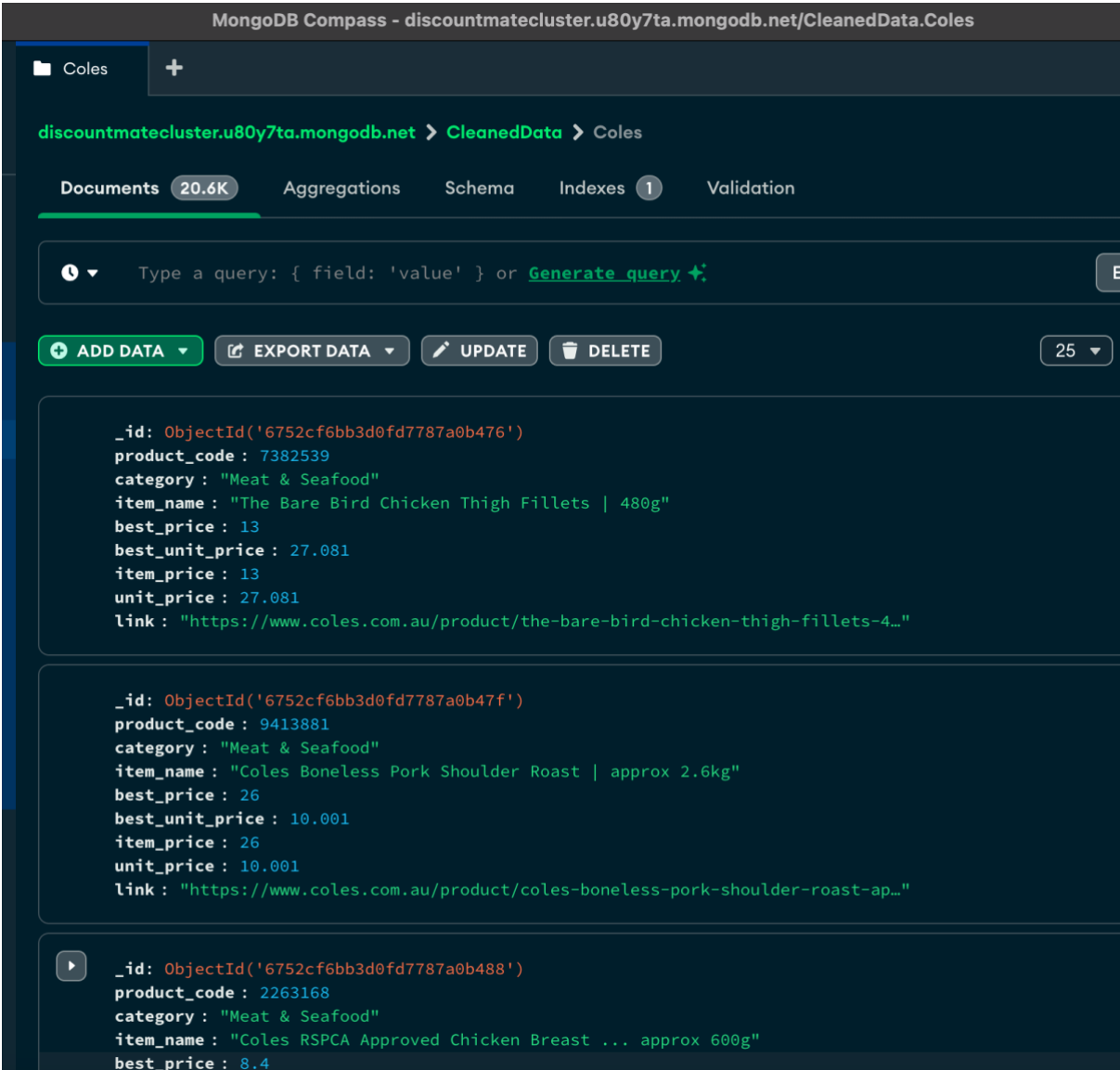
🕒 ▼ Type a query: +

+ ADD DATA ▼ **EXPORT**

Import JSON or CSV file

Insert document

Once the file is uploaded you can see it in the MongoDB compass and Atlas under browse collections



The screenshot shows the 'DiscountMateCluster' interface with the 'Data Services' tab selected. The 'Collections' sub-tab is active, displaying details for 'CleanedData.Coles'. The interface includes a sidebar with a search bar and a list of collections. The main panel shows the collection's storage and document statistics, a search bar, and query results for a specific item.

DiscountMateCluster VERSION 8.0.3

Overview Real Time Metrics **Collections** Atlas Search Performance Advisor Online Archiv

DATABASES: 8 COLLECTIONS: 35

+ Create Database

Search Namespaces

CleanedData

Coles

MasterCollections

SampleData

ScrappedData

calender-data

test

user-auth-test

user-data

CleanedData.Coles

STORAGE SIZE: 2.35MB LOGICAL DATA SIZE: 6.01MB TOTAL DOCUMENTS: 20608 INDEXES TOTAL SIZE: 588K

Find Indexes Schema Anti-Patterns Aggregation Search Indexes

Generate queries from natural language in Compass

Filter Type a query: { field: 'value' }

QUERY RESULTS: 1-20 OF MANY

```

_id: ObjectId('6752cf6bb3d0fd7787a0b476')
product_code: 7382539
category: "Meat & Seafood"
item_name: "The Bare Bird Chicken Thigh Fillets | 480g"
best_price: 13
best_unit_price: 27.081
item_price: 13
unit_price: 27.081
link: "https://www.coles.com.au/product/the-bare-bird-chicken-thigh-fillets~"

```

- Click “Data Federation”
Create a new federated database
Setup manually

The screenshot shows the 'DiscountMateCluster' interface with the 'Data Services' tab selected. The 'Clusters' sub-tab is active, displaying a list of services. A red arrow points to the 'Data Federation' option in the 'SERVICES' section.

DiscountMateM... **Data Services** Charts

Overview **DATABASE** **Clusters** **SERVICES**

Atlas Search

Stream Processing

Triggers

Migration

Data Federation

Data API

SECURITY

Quickstart

DiscountMateCluster

Overview Real Time Metrics **Collections**

DATABASES: 8 COLLECTIONS: 35

+ Create Database

Search Namespaces

CleanedData

Coles

MasterCollections

SampleData

ScrappedData

CleanedD

STORAGE SIZE: 2.35MB

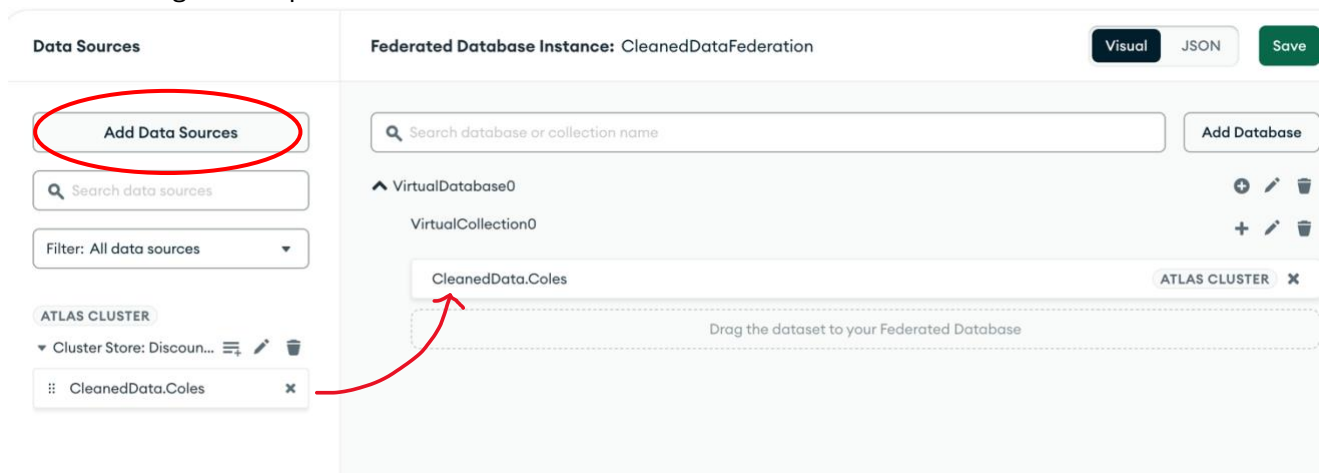
Find Inc

Generate queries f

Filter

QUERY RESULTS:

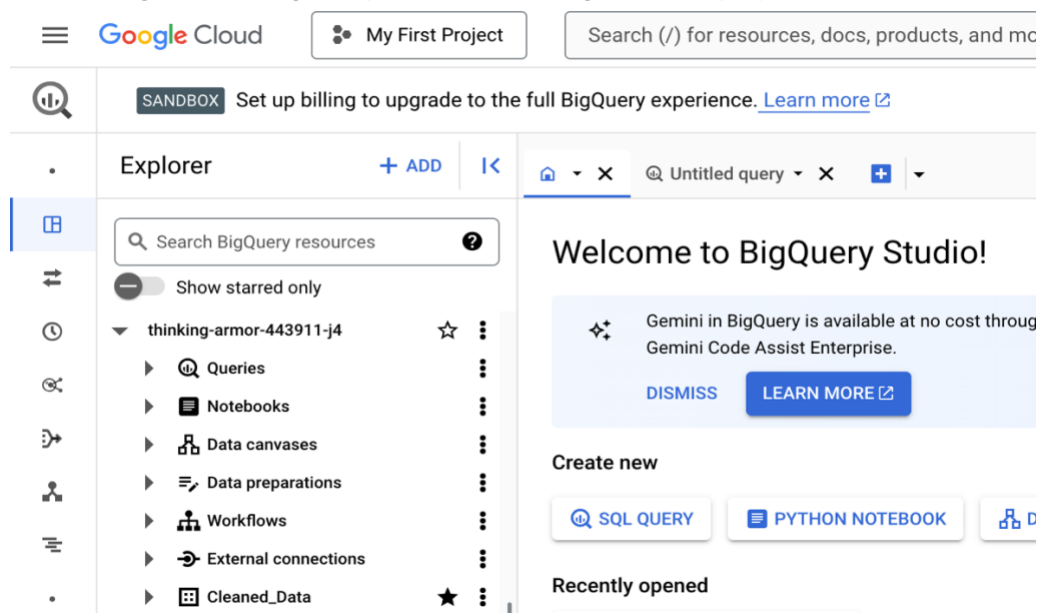
7. Add Data Sources i.e. the CleanedData.Coles
Drag and drop it under the virtual collection and Save



Connecting MongoDB Atlas to BigQuery

1. Open VSCode terminal and setup a virtual environment
Create and activate the environment

```
python3 -m venv venv  
source venv/bin/activate
```
2. Install the necessary libraries in your vscode and edit the python program according to you BigQuery. (uploaded in the Data Analysis folder on github named `mongoBigquery.py`)
3. Go to Google Cloud BigQuery Studio and navigate to the project and the dataset



(thinking-armor-443911-j4 is the project and Cleaned_data is the dataset)

- After you are done editing the python script you run it and it should give you an output confirming that the dataset that was uploaded in MongoDB Atlas is uploaded into BigQuery

```
53 print(f"Dataset '{dataset_id}' not found. Creating it...")
54 dataset = bigquery.Dataset(dataset_id)
55 dataset.location = "US" # Adjust region if needed
56 bq_client.create_dataset(dataset)
57 print(f"Dataset '{dataset_id}' created successfully.")
58
59 # Upload DataFrame to BigQuery Table
60 print("Uploading data to BigQuery table...")
61 try:
62     data.to_dataframe().to_gbq(dataset_id, dataset_location="US")
63 except:
64     pass
```

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL

(venv) (base) nishnakumar@Nishnas-MacBook-Air Y2-T3 % python3 mongoBigquery.py
Connecting to MongoDB Atlas...
Successfully connected to MongoDB!
Fetching data from MongoDB collection...
Fetched 20608 records from MongoDB.
Connecting to BigQuery...
Successfully connected to BigQuery!
Dataset 'thinking-armor-443911-j4.Cleaned_Data' already exists. Skipping creation.
Uploading data to BigQuery table...
Successfully uploaded 20608 rows to 'thinking-armor-443911-j4.Cleaned_Data.Coles'.
(venv) (base) nishnakumar@Nishnas-MacBook-Air Y2-T3 %

Python 3.8.5 64-bit 1 0

- You can refresh the BigQuery and see the “Coles” data under the “Cleaned_Data” dataset.

Explorer + ADD <

Search BigQuery resources ?

Show starred only

thinking-armor-443911-j4 ☆

- Queries
- Notebooks
- Data canvases
- Data preparations
- Workflows
- External connections
- Cleaned_Data ★
- Coles ☆

Untitled query X Coles

Coles QUERY SHAR

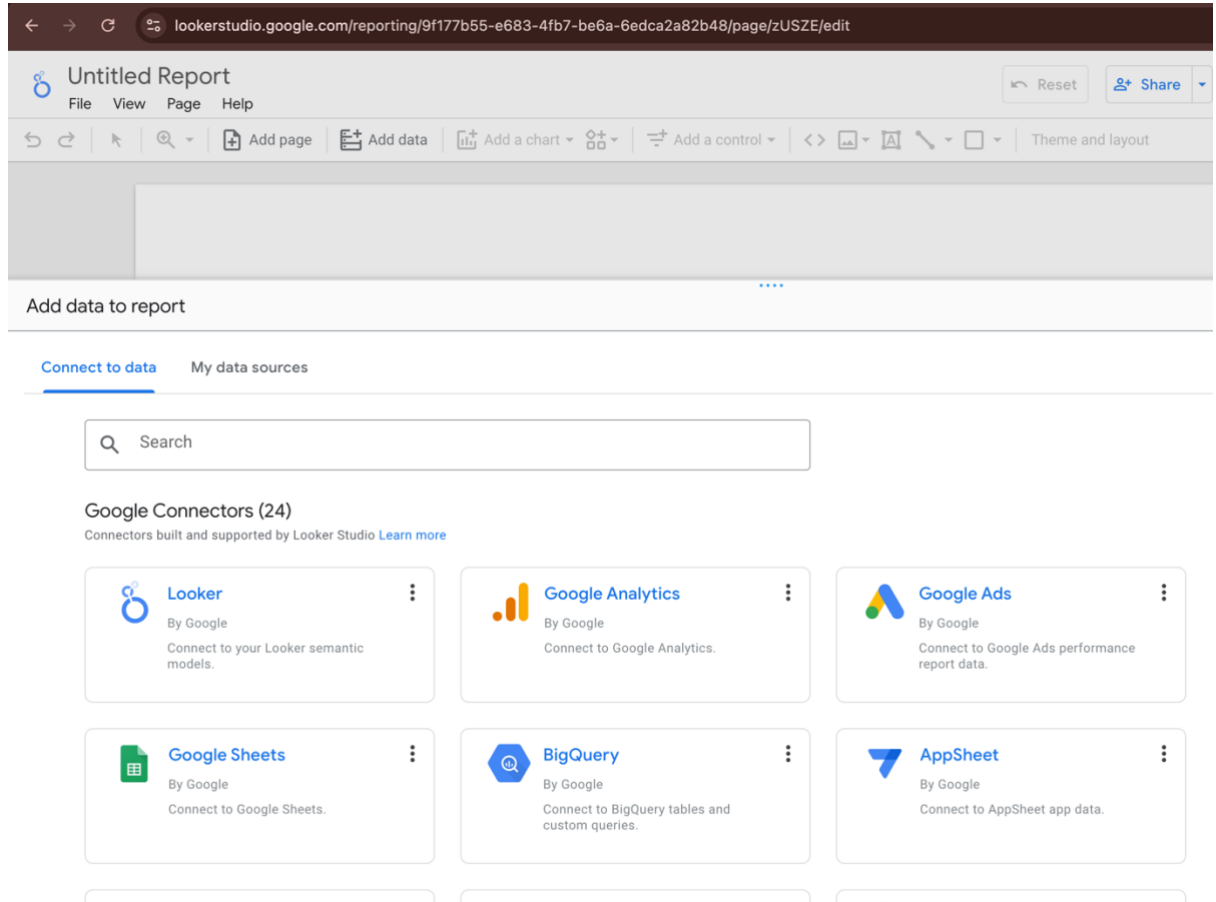
SCHEMA DETAILS PREVIEW

Filter Enter property name or value

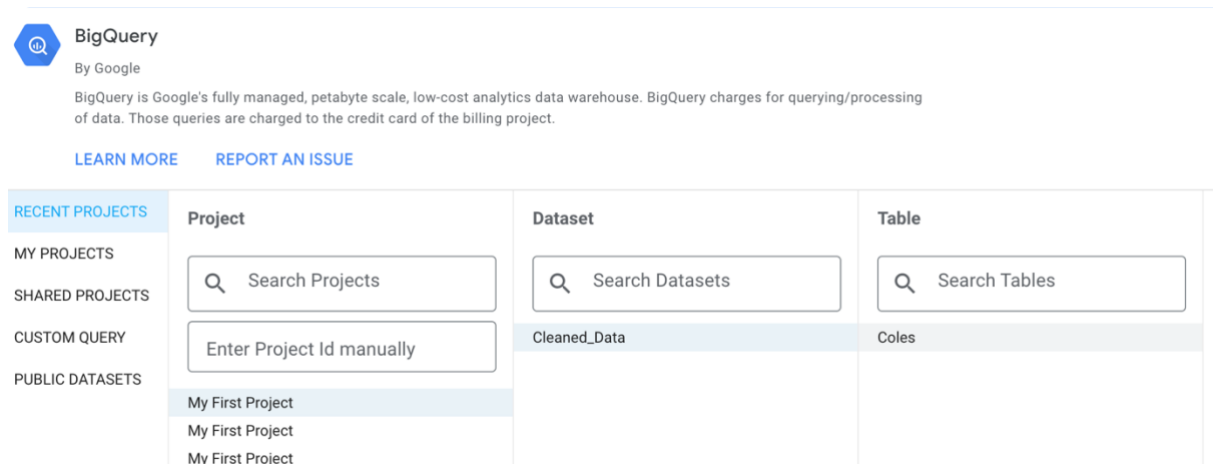
<input type="checkbox"/>	Field name	Type	M
<input type="checkbox"/>	_id	STRING	NI
<input type="checkbox"/>	product_code	INTEGER	NI
<input type="checkbox"/>	category	STRING	NI
<input type="checkbox"/>	item_name	STRING	NI
<input type="checkbox"/>	best_price	FLOAT	NI
<input type="checkbox"/>	best_unit_price	FLOAT	NI
<input type="checkbox"/>	item_price	FLOAT	NI

Realtime Visualization in Looker studio from BigQuery

1. Open LookerStudio and add BigQuery data



2. Choose the Project, the Dataset and the Table.



3. This will give real time updates on any changes made to the BigQuery Dataset after running the python script

